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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN WILKINSON

Appeal 2015-001469
Application 11/041,758
Technology Center 3600

Before JENNIFER D. BAHR, LINDA E. HORNER, and
WILLIAM A. CAPP, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

John Wilkinson (Appellant)¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–20 and 22–25. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ According to Appellant, the real party in interest is M.P.L. Limited, a Belize corporation. Appeal Br. 2.

THE CLAIMED SUBJECT MATTER

Claim 4, reproduced below, is illustrative of the claimed subject matter.

4. A self-inflating fluid cell and system for use in a mattress or cushion comprising:

resilient material formed in a helical pattern, said helix being formed without a coiled metal spring, and adapted to contain a fluid, the resilient material having a spring bias; and

a pressure control system, operatively connected to the resilient material, capable of adjusting the fluid pressure within said fluid cell such that said fluid cell is capable of collapsing when loaded with a load of a body weight having a force which is greater than the sum of the forces within the fluid cell, including the pressure of the fluid inside the fluid cell multiplied by the area of the fluid cell supporting the load of the body weight, plus the reforming force of the fluid cell, and said fluid cell is capable of reforming when said load of the body weight is reduced to a load having a force which is less than the sum of the forces within the fluid cell and the reforming force of the fluid cell.

REJECTIONS

- I. Claims 1–14 and 22–25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Schulman (US 4,852,195, iss. Aug. 1, 1989), Gronsman (US 6,367,106 B1, iss. Apr. 9, 2002), and Chilcoate (US 3,826,409, iss. July 30, 1974).
- II. Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Schulman, Gronsman, Chilcoate, and Smith (US 5,029,939, iss. July 9, 1991).
- III. Claims 17–20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Gronsman and Schulman.

DISCUSSION

Rejection I

Appellant argues for patentability of claims 1–14 and 22–25 subject to this ground of rejection as a group. Appeal Br. 17–21. We select claim 4 as representative of this group, and claims 1–3, 5–14, and 22–25 stand or fall with claim 4. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that Schulman discloses a fluid cell and system as recited in claim 4, with the exception of “a spring bias in the fluid cell” and “the bellows having a shape of a helix and formed without a coiled metal spring.” Ans. 2, 3 (underlining omitted). The Examiner relies on Gronsman for a teaching to employ a spring bias in the fluid cell, in order to reduce the likelihood of decubitus ulcer formation, and on Chilcoate for a teaching to employ a bellows in the shape of a helix “to yield predictable results that provide a memory to urge the bellows in an expanded or collapsed condition.” *Id.* at 2–3 (underlining omitted).

Claim 4 does not exclude a cell that is both a bellows and formed in a helical pattern, or a helical pattern that is part of a bellows. *See* Appeal Br. 28 (Claims App.) (reciting “resilient material formed in a helical pattern”). Appellant acknowledges that Chilcoate discloses a “self-inflating helix style envelope,” but contends that “the Examiner is improperly dismissing the structural differences between a bellows shape and a helix shape.” Appeal Br. 17–19. Chilcoate discloses a container “of an accordion or bellows type generally helical configuration” which preferably is “generally rectangular,” but could also be “circular” as viewed from top or bottom. Chilcoate 3:3–12; Fig. 2. Chilcoate also discloses that the container is made of a material “preferably having some inherent resilience or ‘memory.’” *Id.* 2:50–53.

Thus, Chilcoate discloses a container (i.e., cell) comprising “resilient material formed in a helical pattern,” as recited in claim 4. Appeal Br. 28 (Claims App.).

Appellant also argues that Chilcoate “is not analogous to the field of support surfaces and one skilled in the art would not have thought to apply [its] teachings to support surfaces.” Appeal Br. 19.

Our reviewing court has explained that “[t]he analogous art inquiry is a factual one, requiring inquiry into the similarities of the problems and the closeness of the subject matter as viewed by a person of ordinary skill.” *Scientific Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1360 (Fed. Cir. 2014).

Criteria for determining whether prior art is analogous may be summarized as “(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *Id.* at 1359 (quoting *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992)).

According to Appellant, “Chilcoate teaches a glorified accordion juicebox.” Appeal Br. 19. Appellant contends that the field of endeavor of Appellant’s invention is “the mattress or support surface field,” and Chilcoate’s “juicebox-like liquid dispenser is not in the same field of endeavor.” Reply Br. 5. Appellant also asserts that “[t]he problem that Appellant is trying to solve is, *inter alia*, relief of suffering due to effects of pressure exerted on the patient’s skin which causes blood carrying capillaries to close, which may result in soft tissue degeneration,” and submits that “Chilcoate is silent as to the advantages of using a helix for pressure relief on skin.” *Id.*

“In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

Appellant’s invention is directed toward supporting a patient in a manner to reduce pressure on the patient’s body to thereby reduce tissue trauma. Spec. 2–3. However, other prior art systems already addressed that problem. *See* Spec. 3 (discussion of typical pressure relief support systems). Appellant’s invention really seeks to address problems, or disadvantages, of those prior art systems. One such problem or disadvantage exhibited by the prior art systems is that “during power outages, these mattresses lose pressure leaving a patient on a hard surface to develop pressure sores if action is not taken.” *Id.* Consequently, a problem addressed by Appellant is how to provide a self-inflating fluid cell having a reforming element providing a reforming force to cause the cell to return to its expanded configuration when an external load is removed from the cell. Spec. 3–4, 9–10, 11, 15.

The problem encountered by Appellant is not unique to body supports and mattresses for supporting patients in a manner to reduce tissue trauma. The problem concerns how to provide a self-inflating fluid cell having a reforming element to cause the cell to return to its expanded configuration. Chilcoat also addresses the problem of how to provide a self-expanding

fluid container that will return on its own to its extended position, albeit in the environment of fluid cells (containers) for dispensing liquid dosages. Chilcoate 1:6–10, 3:15–20, 4:53–59 (teaching using the built-in spring wire effect to create suction to draw fluid into the container).² In this regard, Chilcoate is much like the prior art cited by the examiner in the application involved in *In re Paulsen*, 30 F.3d 1475, 1481–82 (Fed. Cir. 1994) (finding the problems encountered by inventors of a patent directed to portable computers were not unique to portable computers and the prior art references cited by the examiner disclosed various means of solving that problem in other devices, thereby rendering the cited references “reasonably pertinent,” and, thus, analogous). For the above reasons, Chilcoate is reasonably pertinent to the problem with which Appellant was involved and, thus, is analogous art. *See* Ans. 9–10 (pointing out that Chilcoate’s teaching of applying the recognized engineering principle that a helical bellows configuration exhibits the particular advantages of providing a memory to urge the bellows into an expanded condition “is reasonably pertinent to . . . Appellant’s invention, and is analogous art”).

Appellant also contends that nothing in Schulman “teaches or suggests using a bellows shape to create a self-expanding force,” and, thus,

² The fact that Chilcoate’s fluid container is used for a different purpose (i.e., liquid dose dispensing) than that of Appellant’s fluid cell (i.e., support of a patient) does not inherently disqualify Chilcoate as analogous art. As our reviewing court has recognized repeatedly, the Supreme Court, in *KSR*, 550 U.S. at 420, “directs us to construe the scope of analogous art broadly, stating that ‘*familiar items may have obvious uses beyond their primary purposes*, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle.’” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010); *see also In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379–80 (Fed. Cir. 2007).

“it cannot be said that modifying the bellows shape from Schulman would have been obvious because no one had ever thought to use a bellows shape as a form of self-expansion.” Reply Br. 5–6. This line of argument is not persuasive because it attacks Schulman individually, and fails to take into account the teachings of Gronsman and Chilcoate relied on by the Examiner. *See* Ans. 2–3 (discussing Gronsman and Chilcoate); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”). In particular, Gronsman evidences that it was known in the art, in a body support of the type disclosed by Schulman in which fluid cells are alternately pressurized and depressurized to reduce the likelihood of ulcers and tissue degradation, to provide each of the fluid cells with a resilient reforming element to return the cell to its uncompressed or relaxed state. *See* Schulman 1:5–19, 2:16–31, 3:22–34; Gronsman 1:51–53, 4:42–66. Chilcoate teaches the use of a bellows of helical configuration to provide inherent memory for self-expansion of the bellows. Chilcoate 3:3–20.

Appellant also argues that a person having ordinary skill in the art would not have been prompted, in view of: A) the teachings by Gronsman of a support surface that reforms with foam; B) the teachings by Schulman of a support surface having a cell that is “non-helical shaped,” “non-self-expanding,” and “not formed in the same way” as Appellant’s fluid cell; and C) the teachings by Chilcoate of “an accordion juicebox,” to apply the concept of a self-expanding helix to a cell of a support surface as claimed.

Appeal Br. 20. This argument is predicated, at least in part, on Appellant's position that Chilcoate is "in non-analogous art." *Id.* at 21.

The modification of Schulman to employ a bellows in the shape of a helix to yield the predictable result of providing a memory to urge the bellows into the expanded condition as proposed by the Examiner is nothing more than the predictable use of a prior art element (i.e., "the engineering principles relating to a helical bellows as taught by [Chilcoate]") according to its established function. Ans. 10. An improvement that is nothing more than the predictable use of prior art elements according to their established functions is likely to be obvious. *KSR*, 550 U.S. at 417. Further, the reason to do so is provided in Gronsman, which, as discussed above, teaches the use of a reforming element to return the fluid cell to its uncompressed configuration in a body support of the type disclosed by Schulman. The modification proposed by the Examiner simply substitutes one known reforming element (i.e., a helical bellows configuration, as taught by Chilcoate) for another (i.e., a resilient foam core, as taught by Gronsman) known in the field.

For the above reasons, Appellant's arguments do not apprise us of error in the rejection of claim 4 as unpatentable over Schulman, Gronsman, and Chilcoate. Accordingly, we sustain the rejection of claim 4, as well as claims 1–3, 5–14, and 22–25, which fall with claim 4, under 35 U.S.C. § 103(a) as unpatentable over Schulman, Gronsman, and Chilcoate.

Rejection II

Appellant does not present any arguments specifically contesting the rejection of claims 15 and 16 as unpatentable over Schulman, Gronsman, Chilcoate, and Smith. *See* Appeal Br. 16 (raising as issues only the

propriety of the rejection of claims 1–14 and 22–25, and the rejection of claims 17–20); *id.* at 17–25 (presenting arguments only against the rejection of claims 1–14 and 22–25, and the rejection of claims 17–20). We understand Appellant to be relying on the arguments presented for patentability of claims 1–14 and 22–25 in contesting the rejection of claims 15 and 16. *See id.* at 26 (requesting reversal of the rejections of claims 1–20 and 22–25). Inasmuch as these arguments do not apprise us of error in the rejection of claims 1–14 and 22–25, for the reasons discussed above, these arguments likewise fail to apprise us of error in the rejection of claims 15 and 16. Accordingly, we sustain the rejection of claims 15 and 16 under 35 U.S.C. § 103(a) as unpatentable over Schulman, Gronsman, Chilcoate, and Smith.

Rejection III

Claim 17 requires, in pertinent part:

a sound control device in line with said port and operatively attached for *reducing the sound of fluid during intake and exhaust of the self-inflating fluid cell*, said sound control device having a variegated surface which allows fluid to flow through the variegated surface *to slow the air flow down and thereby reduce sound*.

Appeal Br. 31, Claims App. (emphasis added).

The Examiner finds that Gronsman lacks a sound control device in line with the port, but relies on Schulman for this feature. Ans. 7. In particular, the Examiner finds that Schulman’s rubber plug 17 has “a variegated opening 19 defined by angled surfaces of V-shaped notches in the upper and lower portions of [plug] 17 each extending to planar surfaces into the opening . . . that is inherently capable of reducing the sound of fluid during intake and exhaust of the self-inflating fluid cell.” *Id.* at 7, 11

(underlining omitted). The Examiner provides an annotated reproduction of Schulman's Figure 3A to illustrate the angled and planar surfaces. *Id.* at 11. The Examiner finds that "the varied sloped and planar surfaces of the opening of [Schulman's plug] are capable of allowing the fluid to flow slowing the air flow down and thereby reduce the sound as claimed." *Id.* at 11–12.

The Examiner's finding regarding the operation of the angled and planar surfaces of Schulman's opening 19 is in error. As Appellant points out, Schulman's plug 17 "is designed either to be open or closed." Appeal Br. 24. Schulman discloses air supply valve 15 comprising "rubber plug 17 having a self-sealing opening 19 which is *normally closed* but which during use is adapted to receive a hollow needle 21 connected to a fluid supply tube 23." Schulman 5:64–68 (emphasis added, boldface omitted). When Schulman's valve 15 is open, by receipt of needle 21 in opening 19, air passes through opening 19 in plug 17 without any influence from the angled or planar surfaces alluded to by the Examiner. On the other hand, when no needle is received in opening 19, Schulman's valve 15 is closed, and no air flows through opening 19. Thus, Schulman's plug 17 is not operative, in either the open state or the closed state, for reducing the sound of fluid during intake and exhaust of the fluid cell. Further, the angled and planar surfaces of Schulman's plug 17 alluded to by the Examiner do not allow fluid (air) to flow through the angled and planar surfaces to slow the air flow down and thereby reduce sound, in either the open or closed state.

Accordingly, we do not sustain the rejection of claim 17 or its dependent claims 18–20, under 35 U.S.C. § 103(a) as unpatentable over Gronsman and Schulman because it is predicated on an incorrect finding.

DECISION

The Examiner's decision rejecting claims 1–14 and 22–25 under 35 U.S.C. § 103(a) as unpatentable over Schulman, Gronsman, and Chilcoate is AFFIRMED.

The Examiner's decision rejecting claims 15 and 16 under 35 U.S.C. § 103(a) as unpatentable over Schulman, Gronsman, Chilcoate, and Smith is AFFIRMED.

The Examiner's decision rejecting claims 17–20, under 35 U.S.C. § 103(a) as unpatentable over Gronsman and Schulman is REVERSED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART